REMARKS

Favorable reconsideration of the subject application is respectfully requested in view of the above amendments and following remarks. Claims 4-18, 21-65 and 72-79 are pending in the application, with claims 21-22, 65 and 72-79 under active examination. By the above amendment, non-elected claims 4-18 and 23-64, as well as elected claims 21, 22, 72, 73 and 76 have been cancelled. Claims 75 and 77-79 have been amended, support for which can be found, e.g., in Example 10, at page 88, line 1 to page 89, line 2; at page 49, line 26 to page 50, line 23, and elsewhere throughout the specification as originally filed. The above amendments are not to be construed as acquiescence with regard to the Examiner's rejections, and are made without prejudice to prosecution of any subject matter modified and/or removed by this amendment in a related divisional, continuation and/or continuation-in-part application.

Applicants acknowledge and thank the Examiner for the indication that claims 65 and 74 are allowable.

As requested by the Examiner, an additional copy of the corrected drawings, filed March 6, 2002, are **provided herewith**.

Applicants respectfully request that the Examiner acknowledge receipt and entry into the record of the references (BL, BM and DJ) requested in the Office Action dated November 6, 2001, copies of which were provided to the Examiner in Applicants' reply to same filed March 6, 2002.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 73, 75 and 77-79 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that that the inventor(s), at the time the application was filed, had possession of the invention. This is a new matter rejection. According to the Examiner, the specification does not adequately describe a polypeptide "comprising amino acids 1-39 of SEQ ID NO: 525."

Without acquiescing to the grounds of this rejection, Applicants have removed reference to amino acids 1-39 of SEQ ID NO: 525 from all claims currently under examination. Reconsideration of this rejection is respectfully requested.

Claims 73 and 75 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. According to the Examiner, the specification does not provide enablement for compositions comprising a polypeptide comprising residues 1-39 of SEQ ID NO: 525, and polypeptides 90% identical thereto.

Without acquiescing to the grounds of this rejection, Applicants have removed reference to "amino acids 1-39 of SEQ ID NO: 525" from all claims currently under examination. More particularly, in the context of the instant rejection of claims 73 and 75, claim 73 has been canceled and claim 75 has been amended to be directed to a composition comprising an immunostimulant and an isolated polypeptide comprising at least the T-cell epitope of amino acids 112-120 of SEQ ID NO: 525, wherein the immunostimulant induces a predominantly Th1-type response. Applicants respectfully submit that the presently claimed polypeptides, and their use in conjunction with immunostimulants that induce a predominantly Th1-type response, are fully enabled by the specification as originally filed. The Examiner acknowledges that the specification teaches that SEQ ID NO: 338 is a naturally processed P703P epitope which is capable of stimulating T-cells and that SEQ ID NO: 338 corresponds to residues 112-120 of SEQ ID NO: 525. The Examiner further acknowledges that one skilled in the art would reasonably conclude that a polypeptide comprising residues 112-120 of SEQ ID NO: 525 would be a polypeptide comprising an amino acid sequence capable of stimulating human T-cells (Action, pages 5-6). Indeed, the specification discloses the identification that SEQ ID NO: 338 as a naturally processed human T-cell epitope in Example 10, at page 88, line 1 to page 89, line 2. The specification also discloses, at page 49, line 26 to page 50, line 23, the use of immunostimulants that induce a predominantly Th1-type response in order to favor the induction of cell mediated immune responses to an antigen. Accordingly, Applicants respectfully submit that claim 75 is indeed fully enabled under 35 U.S.C. § 112, first paragraph, by the specification as filed and would be recognized as such by the artisan of ordinary skill. Reconsideration and withdrawal of the Examiner's rejection is thus respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 102(e)

Claims 21, 72 and 76 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Gimeno et al. (U.S. 5,955,306). According to the Examiner, Gimeno et al. teach a protein that is 97.6% identical to the entirety SEQ ID NO: 525 that would be expected to be capable of stimulating T-cells. The Examiner concludes that this disclosure anticipates claims 21, 72 and 76.

Without acquiescing to the grounds of this rejection, Applicants respectfully submit that this rejection is moot in view of the cancellation of claims 21, 72 and 76.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 21-22, 72 and 76-77 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gimeno (U.S. 5,955,306) in view of Hauser (U.S. 5,776,468). According to the Examiner, Gimeno teach a polypeptide that is 97.6% identical to SEQ ID NO: 525, is immunogenic and may be formulated in a composition with an adjuvant or physiologically acceptable carrier. The Examiner acknowledges that Gimeno does not teach an immunostimulant that induces a Type I response. According to the Examiner, however, Hauser teaches an adjuvant, small MPL, which induces a Type I response (col. 18, lines 5-30 and col. 28, lines 1-10). The Examiner concludes that it would have been obvious to one skilled in the art at the time of the invention to have used Hauser's MPL as an adjuvant in the composition of Gimeno where the motivation would have been to use an improved adjuvant and to induce production of specific (desired) antibodies, such as IgG2a, as suggested by Hauser's teaching that MPL specifically induces IgG2a production.

Applicants respectfully traverse this rejection. As set forth in the above amendment, claims 21, 22, 72, 73 and 76 have been cancelled, without prejudice or acquiescence. As for claim 75, this claim has been amended to be directed to a composition comprising an immunostimulant and an isolated polypeptide comprising at least the T-cell epitope of amino acids 112-120 of SEQ ID NO: 525, wherein the immunostimulant induces a predominantly Th1-type response.

Applicants respectfully submit that the cited reference of Gimeno, when viewed in light of the disclosure Hauser, fails to reasonably render obvious the subject matter of claim 75. As noted by the Examiner, SEQ ID NO: 338 is a naturally processed P703P epitope corresponding to residues 112-120 of SEQ ID NO: 525 which is capable of stimulating human T-cells. The Examiner further acknowledges that one skilled in the art would reasonably conclude that a polypeptide comprising residues 112-120 of SEQ ID NO: 525 would be a polypeptide comprising an amino acid sequence capable of stimulating human T-cells (Action, pages 5-6).

Applicants submit that it is indeed only in view of the instant disclosure that one skilled in the art could reasonably reach this conclusion that a polypeptide of the instant claims would be a polypeptide capable of stimulating a human T-cell response, when prior to Applicants' disclosure it was simply not known that any polypeptide of Gimeno or of SEQ ID NO: 525 was even immunogenic for human T-cells, much less that amino acids 112-120 of SEQ ID NO: 525 represent an immunogenic human T-cell epitope sequence.

Consequently, there would have been no motivation on the part of the skilled artisan to combine a polypeptide of Gimeno with an immunostimulant of Hauser that induces a predominantly Th1-type response, when there would have been no reasonable expectation, in view of this cited art, that any polypeptide of Gimeno, much less that a polypeptide comprising amino acids 112-120 of SEQ ID NO: 525, as claimed by Applicants, would be effective for eliciting a human T-cell response. The Examiner asserts that motivation to combine an immunostimulant of Hauser with a polypeptide of Gimeno would have been derived from the skilled artisan's desire to induce production of specific (desired) antibodies, such as IgG2a, as suggested by Hauser's teaching that MPL specifically induces IgG2a production. However, as set forth by Hauser, "particular attention was given to the induction of antibodies of the IgG2a isotype since this isotype is mainly induced by secretion of g-Interferon. The induction of this isotype thus indirectly reflects the activation of the cell mediated immunity, namely the activation of Th1." (Hauser, Column 15, lines 20-25). Hauser teaches that the disclosed MPL is a potent inducer of a Th1-type immune response (e.g., Column 18, lines 5-6). Moreover, Applicants specification also discloses, at page 49, line 26 through page 50, line 23 that a Th1-type immunostimulant, such as MPL, is selected in order to favor a cellular (T-cell) immune

response as opposed to a humoral (antibody) immune response. Thus, it was known that MPL represents an immunostimulant effective for preferentially inducing a cellular T-cell-mediated immune response of the Th-1 type.

However, as it would have been entirely unknown in view of Gimeno, Hauser, or any other contemporaneous art of which Applicants are aware, that a polypeptide comprising amino acids 112-120 of SEQ ID NO: 525, as claimed by Applicants, could elicit a human T-cell response, the skilled artisan would not have been motivated to combine such a polypeptide with an immunostimulant that induces a predominantly Th1-type cellular immune response. As the cited combination of references fail to teach, suggest or otherwise demonstrate the T-cell immunogenicity of any polypeptide, much less identify the specific T-cell immunogenic portion claimed by Applicants and set forth in amino acids 112-120 of SEQ ID NO: 525, Applicants respectfully submit that the cited combination of references offers nothing of substance that would lead that the skilled artisan, with any reasonable expectation of success, to arrive at the currently claimed compositions. Applicants submit that any position to the contrary relies impermissibly on hindsight reconstruction of Applicants' claims. Reconsideration of this rejection is respectfully requested.

Claims 21-22, 72 and 76-79 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gimeno (U.S. 5,955,306) in view of Cabezon Silva (WO 9701640). According to the Examiner, Cabezon Silva teach an adjuvant comprising QS21 and 3D-MPL in an oil-in-water emulsion (p.6, lines 5-12) that elicits a TH1 response (p.5, lines 16-19). The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to have used adjuvant of Cabezon Silva as the adjuvant in the composition of Gimeno where the motivation would have been to elicit a better response to the polypeptide antigen.

As set forth in the above amendment, claims 21, 22, 72 and 76 have been cancelled, without prejudice or acquiescence. As for claims 77-79, these claims are now dependent upon allowed claim 74 and upon claim 75, with claim 75 being directed to a composition comprising an immunostimulant and an isolated polypeptide comprising at least the T-cell epitope of amino acids 112-120 of SEQ ID NO: 525, wherein the immunostimulant induces a predominantly Th1-type response. Accordingly, rejected claims 77-79 are drawn to

specific combinations of immunostimulants for use in conjunction with a composition of claim 75.

Applicants respectfully traverse the Examiner's rejection on essentially the same grounds noted above with respect to the rejection over Gimeno in view of Hauser. The cited reference of Gimeno, when viewed in light of the disclosure Cabezon Silva, fails to reasonably render obvious the subject matter of claim 75 and, accordingly, fails to render obvious the subject matter of claims 77-79, dependent thereto. More specifically, the deficiencies noted above with respect to Gimeno are equally applicable in the context of this rejection, and are not remedied by the disclosure of Cabezon Silva. As the cited combination of references fails to teach, suggest or otherwise demonstrate the human T-cell immunogenicity of any polypeptide, much less identify the specific T-cell immunogenic portion claimed by Applicants and set forth in amino acids 112-120 of SEQ ID NO: 525, Applicants respectfully submit that the cited combination of references offer nothing of substance that would lead that the skilled artisan, with any reasonable expectation of success, to Applicants' currently claimed compositions. Reconsideration of this rejection is respectfully requested.

The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are believed to be in condition for allowance. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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